

BENCHMARK: BM #1 - Chiseled square in top of southeast wingwall, Sta. 51+16.50, 17.8' RT, Elev. 442.93

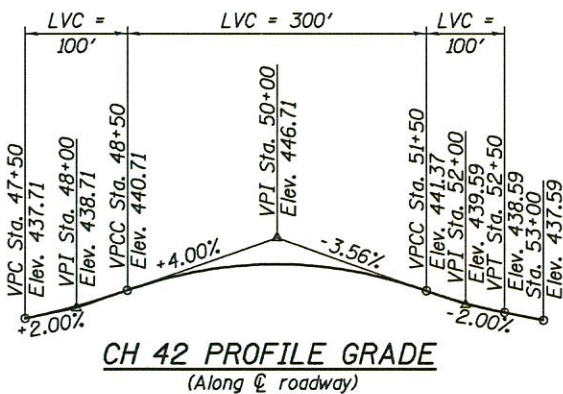
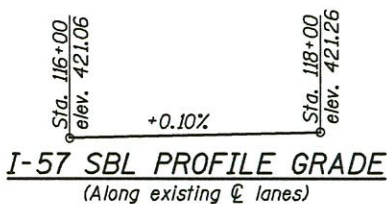
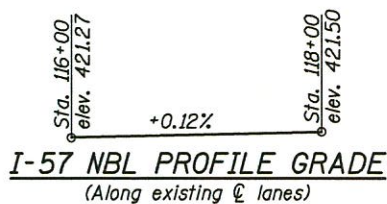
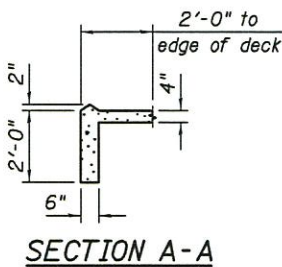
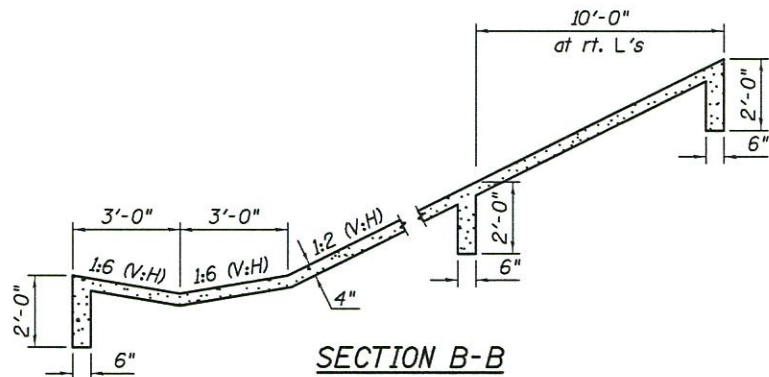
EXISTING STRUCTURE:
SN 041-0055 was originally built in 1965 as F.A.I. 57, Section 41-1HB-1. Three minor repairs have been made since then. First, a new steel bridge rail was installed on the existing curb. Second, a new 2" HMA surface with waterproofing membrane was installed. Third, in 2011 the deck slab, bearings, and bridge joints were repaired. The bridge consists of four spans of a concrete deck on six 30WF108 beams, supported by three hammerhead piers and open abutments on steel piles. The structure is skewed 4°-30'. The back-to-back distance between abutments is 223'-8" and the deck width is 34'-0". Traffic will be maintained using stage construction.

No salvage.

APPROVED

DEC 13 2017

AS A BASIS FOR
PREPARATION OF DETAILED PLANS



HIGHWAY CLASSIFICATION

F.A.S. Route 824 (CH 42)	F.A.I. Route 57 (I-57)
Functional Class: Major Collector (Non-Urban)	Functional Class: Interstate
ADT: 4,248 (2017); 5,080 (2035)	ADT: 35,027 (2017); 48,590 (2039)
DHV: 355 (2035)	DHV: 4,375 (2039)
ADTT: 1,041 (2017); 1,245 (2035)	ADTT: 10,355 (2017); 14,370 (2039)
Design Speed: 30 mph	Design Speed: 70 mph
Posted Speed: 30 mph	Posted Speed: 70 mph
Two Way Traffic	Two Way Traffic
Directional Distribution: 50:50	

SEISMIC DATA

Seismic Performance Zone (SPZ) = 2
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.229g
Design Spectral Acceleration at 0.2 sec. (S_{D5}) = 0.633g
Soil Site Classification = C

DESIGN SPECIFICATIONS

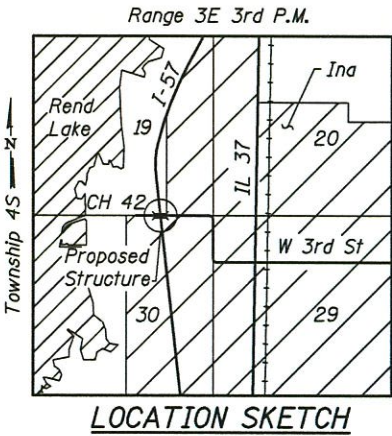
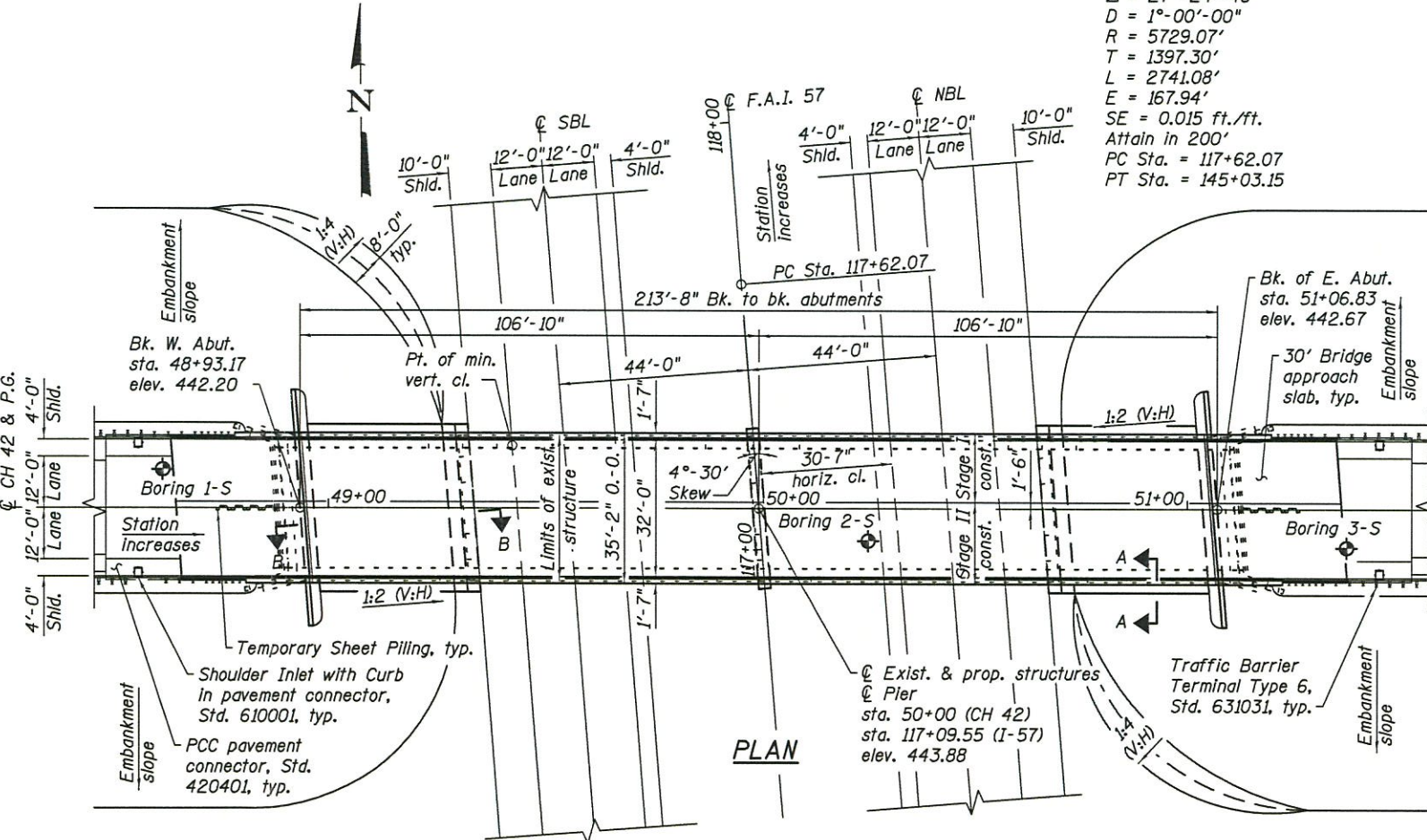
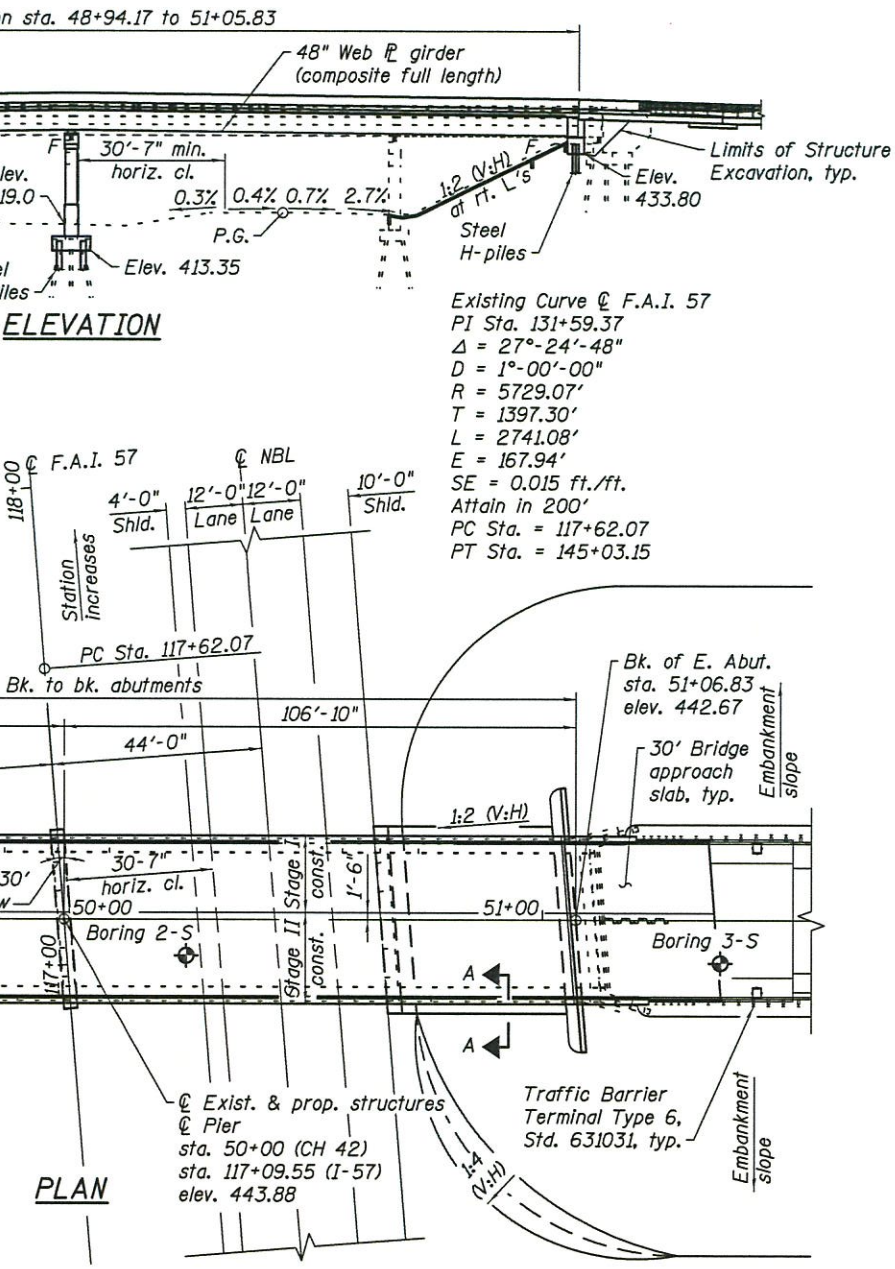
2017 AASHTO LRFD
Bridge Design Specifications
8th Edition

LOADING HL-93
Allow 50 psf for future wearing surface

DESIGN STRESSES

FIELD UNITS

f'_c = 3,500 psi (substructure)
 f'_c = 4,000 psi (superstructure)
 f_y = 50,000 psi (AASHTO M270 Grade 50)
 f_y = 60,000 psi (reinforcement)



GENERAL PLAN & ELEVATION
F.A.S. 824 (CH 42) OVER I-57
F.A.I. RTE. 57 - SECTION (41-1)BR-1
JEFFERSON COUNTY
STATION 50+00.00
STRUCTURE NO. 041-0113

PRINT DRIVER: L:\041-0113\041-0113.dwg
PLOT TABLE: 11/11/2017 11:11 AM
FILE NAME: 041-0113-78455-BL.dwg



USER NAME = kja
ESCA PROJECT NO. 1835.09
PLOT SCALE = 8:2" = 1'-0"
PLOT DATE = 12/11/2017 7:48:34 AM

DESIGNED - KJA	04/17	REVISED -
CHECKED - RDP	07/17	REVISED -
DRAWN - KJA	04/17	REVISED -
CHECKED - RDP/ELH	12/17	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

SHEET NO. 1 OF 2 SHEETS

F.A.I. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
57	(41-1)BR-1	JEFFERSON	-	-
CONTRACT NO. 78455				
ILLINOIS FED. AID PROJECT				

